Remarks

The specification has been amended at page 1 to clarify the relationship between the present application, its continuation-in-part parent, and U.S.S.N. 09/178,154.

Claims 1-53 have been canceled without prejudice to the filing of continuing applications. The new claims overcome the informalities as set forth in the office action.

The new claims also overcome the rejections of the claims under 35 U.S.C. § 112, second paragraph. Specifically, the claims now refer to "a terminal chemical group *from which an oligonucleotide can be synthesized*" (emphasis added), consistent with the specification. Similarly, new claim 56 has deleted any reference to "succinate derivative." The indefiniteness rejection of former claim 19 is now moot. Further, new method claim 58 now clearly sets forth the conditions that are necessary for synthesizing a compound of formula 54, i.e. coupling a terminal group comprising a nucleic acid, nucleoside, nucleotide, or non-nucleotide to the primary amine of a compound of formula V. Next, new claims 62 and 63 address the indefinite rejections found in the office action at page 5, paragraphs 1 and 2. Withdrawal of the indefinite rejections is respectfully solicited.

Claims 3, 19 and 40 stand rejected under 35 U.S.C. § 102. Applicants respectfully submit that the rejection is moot based on the cancellation of the subject matter of those claims.

Finally, the claims stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi in view of Nelson. Specifically, the Examiner contends that one skilled in the art would have been motivated and have had a reasonable expectation of success to adapt the aminopropylalkoxysilane linker of Kobayashi to mediate chemical bonding

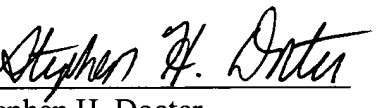
between the solid support and the physiologically active substance for use in olignucleotide synthesis as found in Nelson. Applicants respectfully disagree. As found in the specification at page 3, line 28-page 4, line 18, the prior art teaches that the efficiency of oligonucleotide synthesis is influenced by the length of spacer, and that, in fact, "the efficiency of DNA synthesis will be relatively high so long as the spacer length is at least 24 atoms." Applicants, however, "surprisingly found that the use of specific spacers having lengths between about 9 to about 24 atoms can be utilized for the efficient synthesis of olignucleotides." (see page 4, lines 15-17).

The compounds of the present invention comprise spacers 12 atoms in length. The yields are surprisingly as good as those with longer spacers (see FIG 2 and compare with FIG 10). Based on the prior art, one skilled in the art would have not been motivated to combine the teachings of Nelson (see FIG 1 in Nelson, wherein the spacer of the molecule is 18) with the teachings of Kobayashi because the teachings of the prior art would have *taught away* from such a combination, i.e. the synthesis of an oligonucleotide having a spacer 18 atoms long would have been considered to ***not*** have been efficient. Applicants have surprisingly discovered that the claimed compounds, with spacers from between 9 and 24 atoms, are synthesized in yields exceeding greater than 80%. For these reasons, withdrawal of the obviousness rejection is respectfully solicited.

Allowance of the claims and passage of the case to issue are respectfully solicited. Should the Examiner believe a discussion of this matter would be helpful, he is invited to telephone the undersigned at (312) 913-0001.

Respectfully submitted,

Date: October 17, 2003



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